

WHAT IS CLAIMED IS:

1. A network comprising a plurality of subscribers, said network being divided into a plurality of segments connected with one another by at least one coupling device, wherein said coupling device is configured to determine from a received message, a data rate used for transmitting the message,

wherein said first coupling device generates a special message which contains a previously established data rate as information, and sends the special message at a fixed predefined data rate to neighboring subscribers or coupling devices,

wherein at least one of the neighboring subscribers or coupling devices has a receiving device and a bus interface for the same channel, the receiving device being set to the fixed predefined data rate of the special message and the bus interface being adjustable to be set to different data rates, and

wherein the receiving device and the bus operate in such a way that the data rate of the bus interface is set to the data rate that is contained as the information in the special message received by the receiving device.

2. A network as claimed in claim 1, comprising a plurality of further coupling devices that operate as the first coupling device.

3. A communication system comprising:

a plurality of subscribers each operable to transmit regular data messages to another subscriber and each subscriber operable to receive regular data messages from another subscriber;

a plurality of coupling devices operably connected to said subscribers, wherein each of said coupling devices corresponds to a respective subscriber;

a communication medium operably connected to each of said coupling devices and capable of bidirectionally transmitting the regular data messages between said coupling devices,

wherein at least one of said coupling devices is operable to directly determine a transmission rate of a transmitted regular data message and generate a special data message which includes the determined transmission rate as information.

4. A communication system as claimed in claim 3, wherein said at least one coupling device transmits the special data message at a fixed transmission rate to at least others of said coupling devices or said subscribers.

5. A communication system as claimed in claim 3, wherein at least one of said subscribers or said other coupling devices comprises a receiving device and a bus interface, wherein the receiving device is operable to receive the special data message at the fixed transmission rate and wherein the bus interface is operable to receive regular data messages at a plurality of transmission rates, including the determined transmission rate.

6. A communication system as claimed in claim 5, wherein a rate at which the bus interface receives regular data messages is controlled to be the determined transmission rate.

7. A communication system as claimed in claim 6, wherein the rate at which the bus interface receives regular data messages is controlled by the receiving device.

8. A communication system as claimed in claim 3, further comprising a plurality of communication segments operably connecting each of said subscribers to a respective coupling device and operable to carry both regular data messages and the special data message.

9. A communication system as claimed in claim 8, wherein said communication segments carry electrical signals.

10. A communication system as claimed in claim 3, wherein said communication medium is a fiber optic medium.

11. A coupling device for connecting a subscriber device of a communication system with a communication medium that carries data messages to and from other subscribers, the coupling device comprising:

a segment coupling section operable to receive and transmit regular data messages from and to a plurality of adjacent coupling devices and further operable to determine a transmit rate of any of the regular data messages received from the adjacent coupling devices, and generate a special data message which includes the determined transmission rate as information;

a subscriber coupling section connected to said segment coupling section and operable to receive and transmit the regular data messages from and to a corresponding subscriber device and further operable to determine a transmit rate of any of the regular data messages received from the corresponding subscriber and generate a special data message which includes the determined transmission rate of the regular data message from the subscriber as information.

12. A coupling device as claimed in claim 11, wherein said segment coupling section comprises:

a plurality of receiving devices each operable to receive the special data message at a fixed transmission rate; and

a plurality of bus interface devices each operable to receive the regular data messages at any transmission rate,

wherein a rate at which said bus interfaces receive the regular data messages is controlled by a corresponding receiving device to be the determined transmission rate.

13. A coupling device as claimed in claim 11, wherein said subscriber coupling section comprises:

a receiving device operable to receive the special data message at a fixed transmission rate; and

a bus interface device operable to receive the regular data message from the corresponding subscriber at any transmission rate and determine the transmission rate at which the regular data message was received,

wherein a rate at which said bus interface receives the regular data message is controlled by said receiving device.

14. A subscriber device for providing a user interface to a communication system, the subscriber device comprising:

a receiving device operable to receive a special data message at a fixed transmission rate, wherein said special data message contains rate information regarding a rate at which a regular data message has been transmitted;

a bus interface device operable to receive regular data messages at any transmission rate; and

a control signal operable to carry control information from said receiving device to said bus interface, wherein the control information includes the rate information.

15. A subscriber device as claimed in claim 14, further comprising:

a receiving device input signal operable to change the fixed transmission rate.

16. A subscriber device as claimed in claim 14, further comprising:

a bus interface device input signal, different than said control signal, operable to provide control information to said bus interface device.

17. A method of controlling transmission rates of regular data messages transmitted in a communication system with a plurality of subscribers connected to a transmission medium through a respective plurality of coupling devices, the method comprising:

transmitting a first regular data message from a first subscriber directed to at least a second subscriber, the regular data message being transmitted at a first transmission rate;

receiving the first regular data message in a coupling device corresponding to the first subscriber;

determining the first transmission rate in the coupling device;

forming a special data message including information regarding the first transmission rate in the coupling device; and

transmitting the special data message to other coupling devices and subscribers at a predefined fixed transmission rate.

18. A method as claimed in claim 17 further comprising:

receiving the special data message in the other coupling devices and subscribers;

determining, from the special data message and in the other coupling devices and subscribers, the first transmission rate; and

setting a rate at which the other coupling devices and subscribers can receive data messages to the first transmission rate.